



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,138	06/04/2007	Erasmus Van Niekerk	A&A-100US	7086
31344	7590	07/23/2009		
RATNERPRESTIA P.O. BOX 1596 WILMINGTON, DE 19899			EXAMINER JONES, CHRISTOPHER P	
			ART UNIT 1797	PAPER NUMBER
			MAIL DATE 07/23/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/594,138	Applicant(s) VAN NIEKERK, ERASMUS	
	Examiner CHRISTOPHER P. JONES	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 7-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20061226</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-6, in the reply filed on 06/04/2009 is acknowledged.
2. Claims 7-14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected product, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 06/04/2009.
3. The requirement is still deemed proper and is therefore made FINAL.

Specification

4. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

5. As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading, unless not applicable:
 - (a) TITLE OF THE INVENTION.
 - (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
 - (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
 - (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
 - (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
 - (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.

Art Unit: 1797

(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

(g) BRIEF SUMMARY OF THE INVENTION.

(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(i) DETAILED DESCRIPTION OF THE INVENTION.

(j) CLAIM OR CLAIMS (commencing on a separate sheet).

(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 5 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by *Fuchs* USPN 5,618,430.

8. Regarding claim 1, *Fuchs* discloses a process for purifying polluted air, which process includes passing polluted air through a fluidized bed of micro-organism-containing particulate media (column 3, lines 47-49) while simultaneously stirring the fluidized bed so that, as the polluted air passes through the fluidized bed, organic pollutants therein are decomposed by the micro-organisms (column 3, lines 53-56; column 5, line 66 – column 6, line 2), with purified air containing a lower level of the

Art Unit: 1797

organic pollutants than the polluted air that enters the fluidized bed, emerging from the fluidized bed (column 3, lines 59-60).

9. Regarding claim 2, *Fuchs* discloses that the micro-organism-containing particulate media comprises inert particles coated with an active medium or biomass (column 3, lines 15-38).

10. Regarding claim 3, *Fuchs* discloses that the particles have sizes that range from sub-micron to 5 mm (column 1, lines 58-65).

11. Regarding claim 5, *Fuchs* does not expressly state that the fluidized bed is maintained at or near anaerobic conditions by controlling the humidity of the fluidized bed. Nevertheless, *Fuchs* discloses a process with the same preferred steps as contained in Applicant's claims/specification, namely that the fluidized bed is maintained at a moist state (column 4, lines 6-12); therefore, it is inherent that the fluidized bed is maintained at or near anaerobic conditions. See MPEP 2112.

12. Regarding claim 6, *Fuchs* discloses moistening the polluted air before passing it through the fluidized bed (column 4, lines 6-12).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1797

14. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Fuchs* USPN 5,618,430.

15. *Fuchs* is relied upon as above.

16. Regarding claim 4, *Fuchs* discloses that the air that passes through the bed of particulate media acts also as fluidizing medium for the particulate media (column 4, lines 6-12). *Fuchs* does not disclose that the air flow rate is from 0.7 m/s to 1.5 m/s. Nevertheless, absent a proper showing of criticality or unexpected results, the flow rate is considered to be a general condition that would have been routinely optimized by one having ordinary skill in the art in order to provide optimal removal of pollutants. MPEP 2144.05.

17. Regarding claim 5, in the alternative, if it is not inherent that the fluidized bed is maintained at or near anaerobic conditions, it nevertheless would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the process of *Fuchs* so that the fluidized bed is maintained at or near anaerobic conditions through the use of moisture since it was known in the art that removing pollutants with micro-organisms can be performed at or near anaerobic conditions (see *Fuchs* column 3, lines 61-62).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER P. JONES whose telephone number is

Art Unit: 1797

(571)270-7383. The examiner can normally be reached on Monday - Thursday, 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571)272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. P. J./
Examiner, Art Unit 1797

/DUANE SMITH/
Supervisory Patent Examiner, Art
Unit 1797